

Reply to Office Action dated September 13, 2005

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A projecting optical system, comprising:
  - a lamp ~~for irradiating~~ configured to irradiate light;
  - a color divider ~~for dividing~~ configured to divide colors of light irradiated from the lamp;
  - a illumination mixer ~~for irradiating~~ configured to irradiate the light received from the color divider with equal light intensity;
  - a channel-changing prism ~~for changing a channel of~~ configured to receive light irradiated from the illumination mixer ~~to upward and downward and to provide a predetermined distance between an axis of incidence light and an axis of light emitted by the channel-changing prism;~~ and
  - a TIR prism for changing a direction and angle of light to a predetermined direction and angle.
2. (Original) The projecting optical system of claim 1, further comprising a reflective mirror for changing the channel of light such that the light irradiated from the lamp is entered into the color divider.

Reply to Office Action dated September 13, 2005

3. (Original) The projecting optical system of claim 1, wherein at least one first illumination lens and second illumination lens for controlling the intensity of light are provided between the channel-changing prism.

4. (Original) The projecting optical system of claim 1, wherein the color divider comprises a plurality of optical means formed in a disk or cylindrical form and rotatably provided for selectively transmitting or reflecting a color.

5. (Original) The projecting optical system of claim 1, wherein the channel-changing prism is rotatably provided for controlling step difference of incidence light.

6. (Canceled)

7. (Currently Amended) The projecting optical system of claim 1, wherein the channel-changing prism is rotatably provided for controlling the a step difference of emission light.

8. (Currently Amended) A ~~projecting optical system, wherein a projector having a~~  
DMD panel ~~comprises:~~ comprising the projecting optical system of claim 1  
~~a lamp for generating light;~~

~~a color divider for dividing colors of light irradiated from the lamp;~~  
~~a illumination mixer for irradiating the light with equal light intensity;~~  
~~a channel-changing prism for changing a channel of light irradiated from the illumination mixer to upward and downward; and~~  
~~a TIR prism for changing a direction and angle of light to a predetermined direction and angle of light.~~

9. (Currently Amended) The ~~projecting optical system~~ projector of claim 8, further comprising a reflective mirror for changing the channel of light such that the light irradiated from the lamp is entered into the color divider.

10. (Currently Amended) The ~~projecting optical system~~ projector of claim 8, wherein at least one first illumination lens and second illumination lens for controlling the intensity of light are provided between the channel-changing prism.

11. (Currently Amended) The ~~projecting optical system~~ projector of claim 8, wherein the color divider comprises a plurality of optical means formed in a disk or cylindrical form and rotatably provided for selectively transmitting or reflecting a color.

12-13. (Canceled)

14. (Currently Amended) The ~~projecting optical system projector~~ of claim 8, wherein the channel-changing prism is rotatably provided for controlling step difference of emission light.

15. (Currently Amended) The ~~projecting optical system projector~~ of claim 8, wherein the TIR prism is inclined at a predetermined angle vertically and horizontally for maintaining the predetermined incidence angle of light required by the DMD panel.

16. (New) The projecting optical system of claim 1, wherein, in the channel-changing prism, the axis of incidence light and the axis of light emitted by the channel-changing prism are substantially parallel.

17. (New) The projecting optical system of claim 1, wherein the predetermined distance extends in a substantially vertical direction.

18. (New) The projecting optical system of claim 1, wherein the channel-changing prism comprises two substantially parallel reflective planes that provide the predetermined distance between the axis of incidence light and the axis of light emitted by the channel-changing prism.

19. (New) The projecting optical system of claim 8, wherein, in the channel-changing prism, the axis of incidence light and the axis of light emitted by the channel-changing prism are substantially parallel.

20. (New) The projecting optical system of claim 8, wherein the predetermined distance extends in a substantially vertical direction.

21. (New) The projecting optical system of claim 8, wherein the channel-changing prism comprises two substantially parallel reflective planes that provide the predetermined distance between the axis of incidence light and the axis of light emitted by the channel-changing prism.

22. (New) A projecting optical system, comprising:

- a lamp configured to irradiate light;
- a illumination mixer configured to irradiate the light received from the lamp with equal light intensity;
- a channel-changing prism configured to receive light irradiated from the illumination mixer and to provide a predetermined distance between an axis of incidence light and an axis of light emitted by the channel-changing prism; and

a prism for changing a direction and angle of light to a predetermined direction and angle.

23. (New) The projecting optical system of claim 22, wherein, in the channel-changing prism, the axis of incidence light and the axis of light emitted by the channel-changing prism are substantially parallel.

24. (New) The projecting optical system of claim 22, wherein the predetermined distance extends in a substantially vertical direction.

25. (New) The projecting optical system of claim 22, wherein the channel-changing prism comprises two substantially parallel reflective planes that provide the predetermined distance between the axis of incidence light and the axis of light emitted by the channel-changing prism.

26. (New) A projector having a DMD panel comprising the projecting optical system of claim 22.